City of Tucson
Amendments to the:
2005 National Electrical Code

Section 210.5 Identification for branch circuits. REVISE section by DELETING paragraph (C) and REPLACING it with the following:

(C) Ungrounded conductors. Branch circuits shall conform to the following color code.

Volts	Phase	System	Phase A	Phase B	Phase C	Grounded Conductor
120/208	3	WYE	Black	Red	Blue	White
277/480	3	WYE	Brown	Orange	Yellow	Grey
120/240	3	DELTA	Black	Orange	Red	white

Exception No. 1: The above color coding is not required in residential occupancies.

Exception No. 2: Industrial occupancies holding a Registered Plant Permit may use their own coding system.

Exception No. 3: Additions to an existing electrical system, where an acceptable color coding system exists, the existing color coding system shall be continued.

Section 210.11(C) Dwelling units. REVISE section by ADDING Item (4) to read:

(4) Dishwasher and garbage disposer branch circuits-dwelling units. In residential occupancies, dishwasher and garbage disposer may be on the same 20-ampere branch circuit.

ADD new Section 220.89 to read:

220.89 Optional calculation for non-dwelling unit occupancies. The calculation of feeder or service load in non-dwelling unit occupancies shall be permitted to be calculated in accordance with Table 220.89 in lieu of Part II of this article. This section shall not apply to calculations performed under Sections 220.86, 220.87, or 220.88. Calculations for this section shall be prepared by a registered electrical engineer.

Table 220.89
Optional Method-Demand Factors for
Non-Dwelling Unit Occupancies

Connected Loads from Part II, Article 220	**Demand Factors[1] (Percent)**
Connected load up to and including 800 amperes	100
Connected load over 800 amperes	90

Footnote:
[1]Other demand factors may be permitted at the discretion of the Building Official.

Section 225.32 Location. REVISE section by ADDING the following:

Exception No. 5: For freestanding canopies, carports, towers, and similar structures, a branch circuit disconnecting means shall be permitted to be located elsewhere on the premises. A bonding conductor sized per Section 250.122 shall be run with the circuit conductors.

Section 230.40 Number of service-entrance conductor sets. REVISE section by DELETING exception no. 1 and REPLACING it with the following:

Exception No. 1: For multiple-occupancy buildings, not more than two groups of one to six disconnects shall be permitted to be tapped from a single service drop or set of service lateral conductors. When mounted in individual enclosures, the groups of one to six disconnects shall be separated by not less than two feet. When part of a manufactured gangable meter center (cable terminal box and meter/disconnect section bussed together), a readily identifiable separation shall exist between the two groups of one to six disconnects.

In addition, DELETE exception No. 4 in its entirety and renumber exception No. 5 to exception No. 4.

Section 230.70(B) Marking. REVISE this section by ADDING the following to the end of the sentence:

The markings shall be of sufficient durability to withstand the environment involved. Identifying labels required for disconnecting means shall have engraved or raised letters and be secured by screws or rivets (plastic tape shall not be considered durable material).

Section 230.90 (A) General. Add Exception No. 6 to read:

Exception No. 6: For services conforming to Section 230.40, Exception No.1 only, not more than two groups of one to six circuit breakers or sets of fuses shall be permitted as the overcurrent devices to provide the overload protection. The sum of the ratings of the circuit breakers or fuses shall be permitted to exceed the ampacity of the service conductors, provided the calculated load in accordance with Article 220 does not exceed the ampacity of the service conductors.

Section 240.24(B) Occupancy. REVISE section by DELETING both exceptions and REPLACING them with the following:

Exception No. 1: In a multiple-occupancy building where electric service supplies more than one occupancy and electrical maintenance is provided by the building management and where these are under continuous supervision by the building management or agent, the service overcurrent devices, feeder overcurrent devices and branch circuit overcurrent devices shall be permitted to be accessible to authorized personnel only.

Section 250.118 Types of equipment grounding conductors. REVISE section by DELETING items (5), (6), (7), and (8).

Table 310.5 Minimum size of conductors. REVISE Table to read:

Table 310.5

Voltage Rating of Conductor - Volts	Minimum Conductor Size - AWG
0 through 2000	14 Copper 12 Copper-Clad Aluminum 8 Aluminum
2001 through 8000	8
8001 through 15000	2
15001 through 28000	1
28001 through 35000	1/0

Section 340.10 Uses permitted. REVISE section by ADDING new item (8) to read:

(8) Type UF Cable shall be permitted to be used in mortar joints of adobe construction in occupancies where the use of Nonmetallic Sheathed Cable is permitted by this code.

Section 348.60 Grounding and bonding. REVISE section by DELETING and REPLACING with the following:

Flexible metal conduit shall not be permitted as a grounding means. An equipment grounding conductor, sized in accordance with Table 250.122, shall be installed in all flexible metal conduits. Where an equipment bonding jumper is required around flexible metal conduit, it shall be installed in accordance with Section 250.102.

Exception: Listed and labeled factory assembled (pre-wired) fixtures and equipment with flexible metal conduit will not require the addition of the grounding conductor in the pre-wired raceway.

Section 350.10 Uses permitted. REVISE section by ADDING new item (4) to read:

(4) For feeders.

Section 350.60 Grounding and bonding. REVISE section by DELETING and REPLACING with the following:

Liquidtight flexible metal conduit shall not be permitted as a grounding conductor. A conductor (as determined by Table 250.122) shall be installed in all liquidtight flexible metal conduits. Where an equipment bonding jumper is required around liquidtight flexible metal conduit, it shall be installed in accordance with Section 250.102.

Exception: Listed and labeled factory assembled (pre-wired) fixtures and equipment with liquidtight flexible metal conduit will not require the addition of the grounding conductor in the pre-wired raceway.

Section 352.12 Uses not permitted. REVISE section by ADDING new paragraph (G) to read:

(G) Where exposed in exterior locations.

Exception: Schedule 80 PVC may be used exposed out of doors.

Section 410.16 (C) Suspended ceilings. REVISE section by ADDING the following to the end of the paragraph:

1. Mount luminaires (fixtures) installed in acoustical tile or lay-in panel ceilings in a manner that will not compromise ceiling performance.
2. Pendant luminaire (fixture) hangers attached to main or cross runners shall have approved support direct from structure.
3. Luminaires (fixtures) weighing less than 25.5kg (56 pounds) shall have two No. 12 gage hangers connected from the luminaire (fixture) housing to the structure above. These wires may be slack.
4. Luminaires (fixtures) weighing over 25.5kg (56 pounds) shall be supported directly from structure with approved hangers.

Section 422.12 Central heating equipment. REVISE section by ADDING sentence to the end of the paragraph to read:

Evaporative cooler fan and pump motors shall be permitted to be connected to the same branch circuit as central heating equipment when the controls do not permit the evaporative cooler and the central heating to operate at the same time or the air distribution system is designed to not have the evaporative cooler and the central heating equipment operating at the same time.

Section 440.65 Leakage current detection and interruption and arc-fault circuit interrupter. DELETE section in its entirety.

Section 501.30(B) Types of equipment grounding conductors. REVISE section by DELETING the exception.

Section 502.5 General. REVISE section by NUMBERING FPN to FPN No. 1, and ADDING FPN No. 2 to read:

(FPN No. 2): The following is a guideline for a Small Woodworking Facility.

1. Complete U.L. listed Dust Collection System, interlocked with dust producing equipment.
2. Light fixtures below 12' shall be of the enclosed type.
3. Boxes shall be "Bell" or "FS" type with threaded hubs and gasketted covers.
4. Wiring methods shall be IMC, RMC, LFMC or EMT with compression or threaded fittings.
5. Requirements extend in a 10' radius from each dust producing piece of equipment.
6. Seal any openings in boxes or electrical equipment to prevent the intrusion of dust (NOTE: DO NOT VOID U.L. LISTING BY SEALING DESIGNED HEAT VENTS).
7. See Section 500.5 (C) (2) FPN #1.

Section 502.30(B) Types of equipment grounding conductors. REVISE section by DELETING this exception.

Section 503.30 (B) Types of equipment grounding conductors. REVISE section by DELETING this exception.

Section 700.27 Coordination. DELETE this section in its entirety.

Section 701.18 Coordination. DELETE this section in its entirety.

ADD new Section 725.12 to read:

Section 725.12 Location of Power Supplies and Transformers.

(A) Accessibility. Class 1, Class 2 and Class 3 power supplies and transformers shall be accessible.

(B) Prohibited locations.

1) In any closet or space not complying with the clearances specified in section 410.8 (D)(1).
2) In attics or other space subject to high ambient temperatures.